

FIG. 1

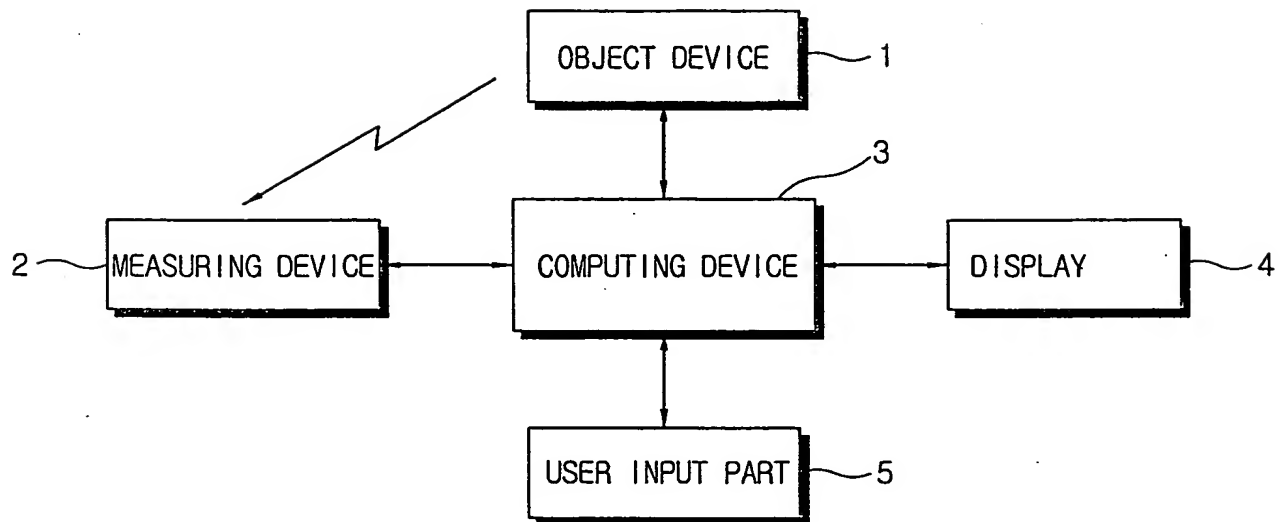


FIG. 2

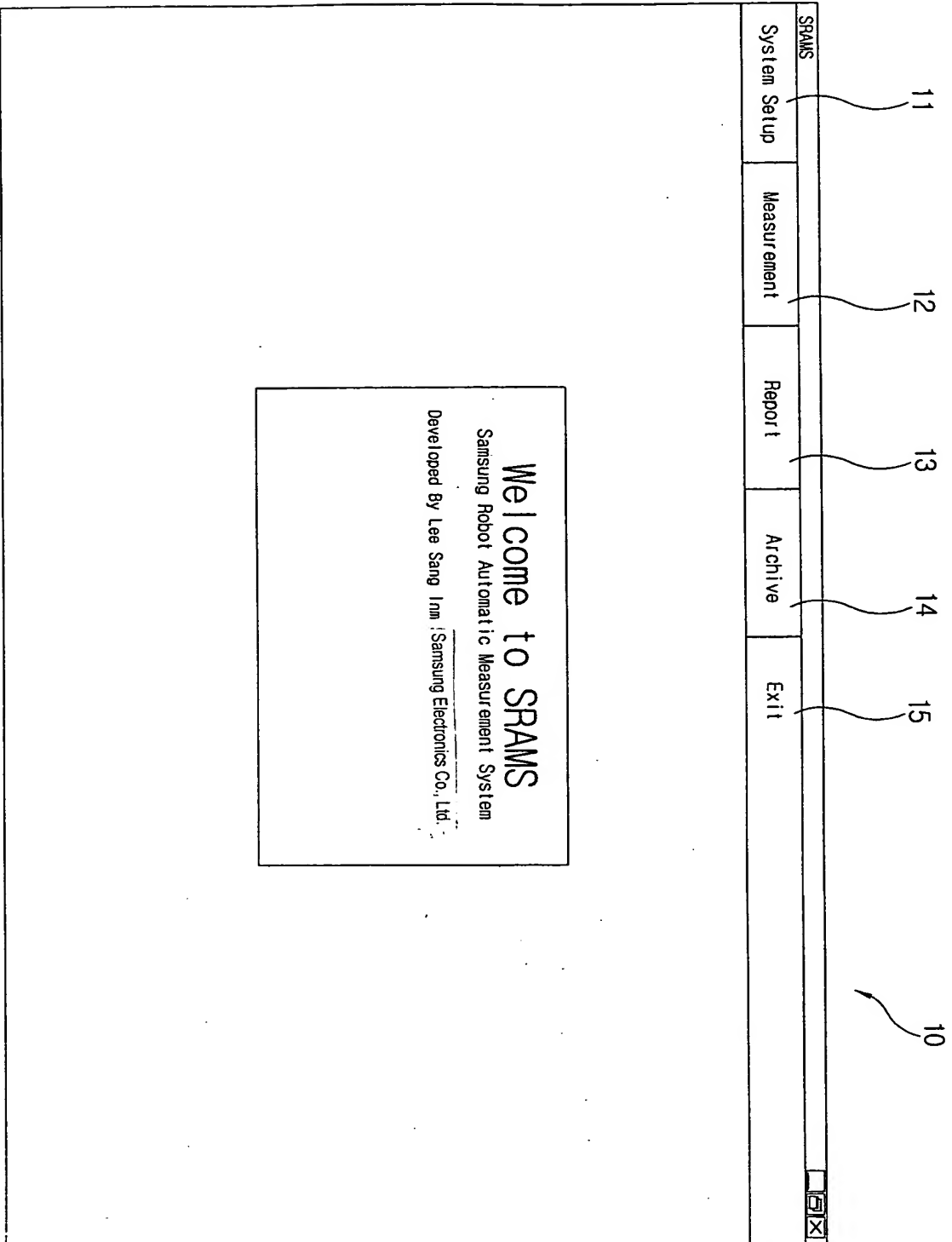
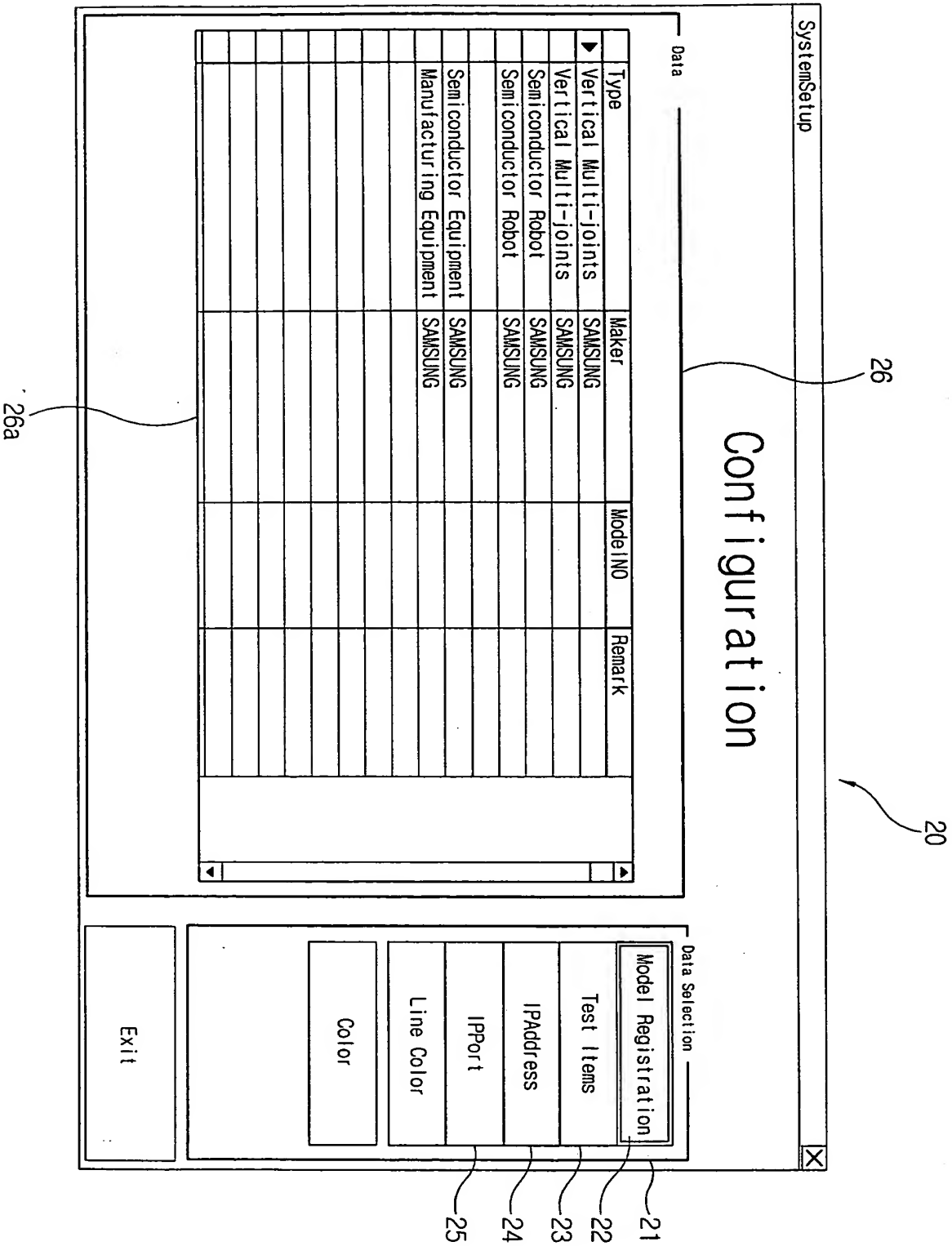


FIG. 3



26

FIG. 4

20

SystemSetup

Configuration

Data

TestName	ProatName	ount	Refer Name
Point			
Reference			
Pose Accuracy and Repeatability			
Multi-directional pose accuracy			
Distance acc. and repeatability			
Pose stabilization and overshoot			
path acc. repeat. velo. fluctuation			
Circular acc. & repeat. (Big)			
Circular acc. & repeat. (Small)			
Path accuracy on reorientation			
cornering deviation(Rectangular)			
Minimum posing time			
Drift of pose			
Exchangeability			
Static compliance			
Weaving deviations			

26b

Data Selection

Model Registration

Test Items

IPAddress

IPPort

Line Color

Color

Exit

21

22

23

24

25

FIG. 5

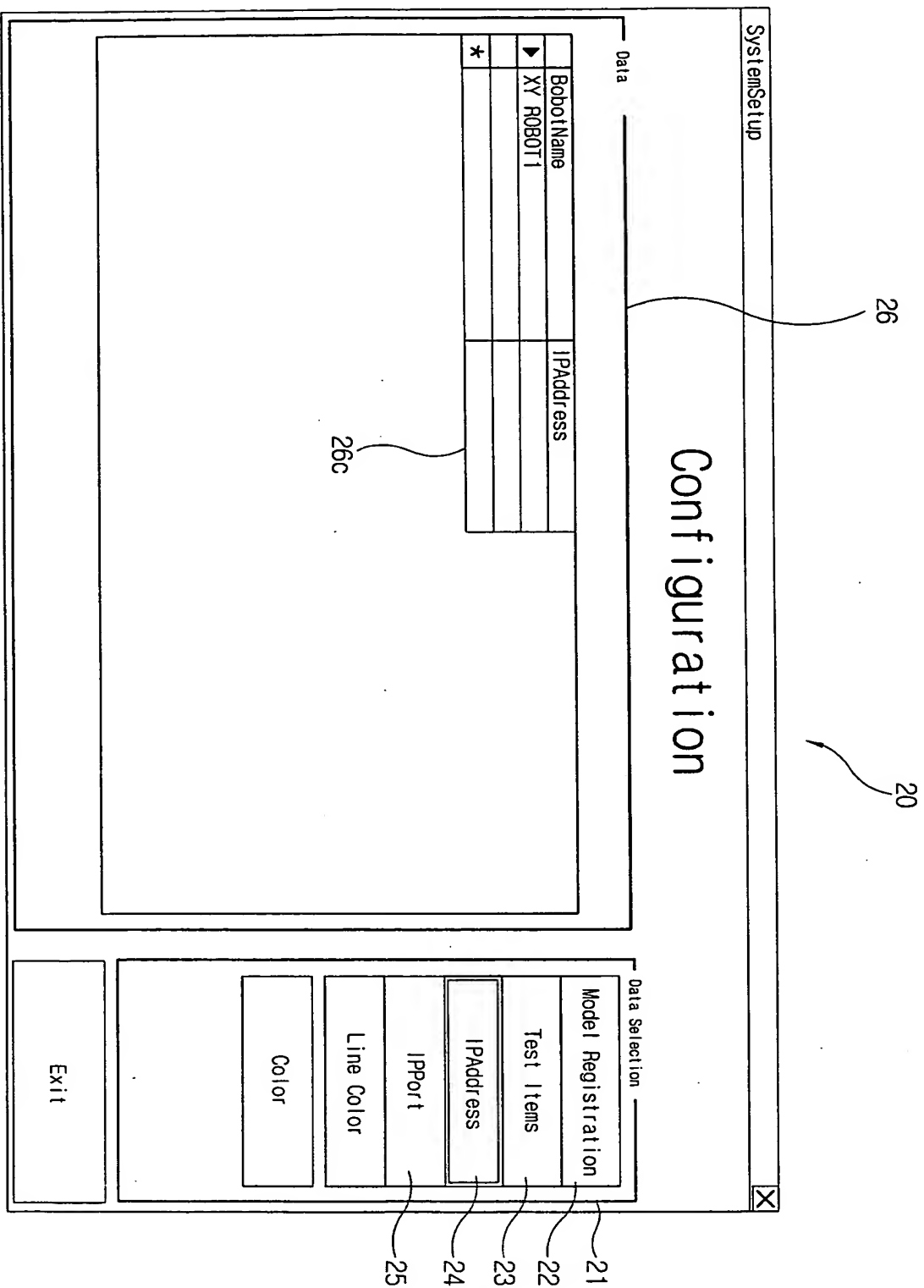


FIG. 6

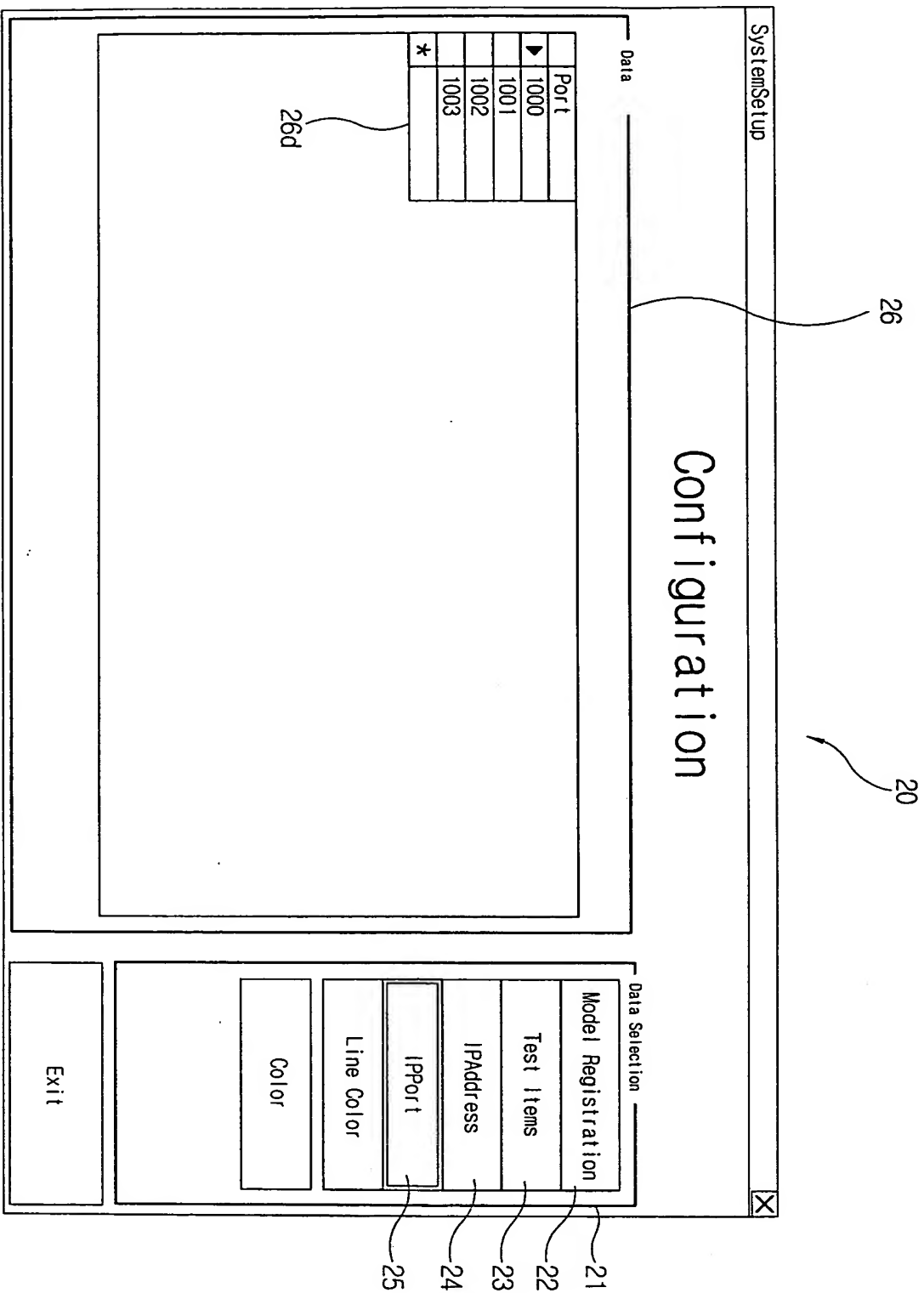


FIG. 7

Robot & Equip. Test Specification

31a 31b 31

33b

30

35

Robot Selection

Semiconductor Robot

RMRL InKL TR

Model Register

Limit Setup

1/6

RobotModel

WTR

APHigh

APLow

RPHigh

RPLow

Test Selection

Pose/Acc

Multi-Direction

Dist Acc

OverShoot

Drift

Exchange

PathLine

PathCircle

Path Reorient

Cornering

Path Velocity

Minimum

Static

Weaving

Default Value

0.1

Add New

Update

Delete

Exit

	RobotModel	APHigh	APLow	RPHigh	APLow
1	WTR	0.1	-0.1	0.1	-0.1
2	SS2	0.05	-0.05	0.05	-0.05
3	RMRL InKL TR	0.1	-0.1	0.1	-0.1
4	AM1	0.1	-0.1	0.1	-0.1
5	RMRL InKL TR	0.1	-0.1	0.1	-0.1
6	AM2	0.1	-0.1	0.1	-0.1

33a

33

FIG. 8

40

Measurement Setup

Setup

Type	Semiconductor Equipment	41a
Measuring Object Model	CleanConve	41b
Body Serial No	Test1	41
Controller Serial No	Test1	
Main S/W Version	4.3	41c
Secondary S/W Version	6.0	
Tester	Lee Sang In	

Directory

c:[Local disk] *.Notice:Empty the directory

C:\

FARO

Final3.23

Rocal0332

data

Doc

image

Command

C:\FARO\final3.23\Rocal0332

Directory:

New Directory

Back

Continue...

43

FIG. 9

51

51a

51b

51c

51d

51e

51f

50

53

53a

53b

55a

55b

55

Frame Translation

Frame

Run L/T

SMR Selection

Measure

Measured Data

Robot Point

Get Measured Data

Compute

Move to

ISO283 Continue

Special Continue

Exit

M/C	X	Y	Z
Point 1	455.572805	409.136698	-07.1284
Point 2	-136.723034	437.552396	-07.1284
Point 3	377.428058	-806.806221	-07.1284
X	.000000	.009790	27.976112
Y	-.005673	.000000	21.994152
Z	233.781109	-196.561970	.000000
X-2	.000000	-.331.833539	29.791095

M/C	X	Y	Z
Point 1	3272.514245	-1840.012360	-07.1284
Point 2	3639.138528	-2014.805611	-07.1284
Point 3	3650.543659	-681.667077	-07.1284
X	3815.611041	-1577.046280	27.976112
Y	3815.619039	-1577.040232	27.994152
Z	3637.945631	11308.483028	.000000
X-2	3898.129583	-1235.629258	29.791095

Degree 90

Direction X Y Z

Measure

Measured Data

Robot Point

Get Measured Data

Compute

Move to

ISO283 Continue

Special Continue

Exit

FIG. 10

SRMS - Robot Control

61

RS232C LAN NoComm

Port COM 1 Band Rate 19200

Connect Disconnect

63

Configuration Robot

Speed 50%

CP Speed

Load 100%

63a

Commands

Send Insert Delete

Clear

65a

Special Measurement

65

Measurement Test Selection

Point Reference Pose Accuracy and Repeatability Multi-directional pose accuracy Distance acc. and repeatability Pose stabilization and overshoot Path acc. repeat. velo. fluctuation Circular acc. repeat (Big) Circular acc. repeat (Small) Path accuracy on reorientation Cornering deviation (Rectangular) Minimum posing time Drill of pose Exchangeability Static compliance Weaving deviations

No Ref Cycle

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Auto

Start Stop Reset Select All Clear All

67

65b

65c

Measurement Measure Count Laser Tracker Special Configuration

Don't click the Buttons While measuring.

Load L/T Initialize Home EXIT L/T

Exit

60

FIG. 11

70

73

Robot Coordinate Translation
Pose accuracy and pose repeatability
Multi-directional pose accuracy variation
Distance acc. & Repeatability
Position Stabilization Time & Overshoot
Drift of pose Characteristics
Exchangeability
Path acc. & repeatability(Line)
Path velocity characteristics
Path acc. & repeatability(Circle)
Path acc. & repeatability(SCircle)
Path accuracy on reorientation
Corneration Deviations
Minimum posing time
Weaving Deviations
Static Compliance
Measured Data
Extra Controls
Exit

Report

71

FIG. 12

80

81

SERIES									
Robot Coordinate Translation									
Pose accuracy and pose repeatability									
Multi-directional pose accuracy variation									
Distance acc. & Repeatability									
Position Stabilization Time & Overshoot									
Drift of pose Characteristics									
Exchangeability									
Path acc. & repeatability(Line)									
Path velocity characteristics									
Path acc. & repeatability(Circle)									
Path acc. & repeatability(Square)									
Path accuracy on reorientation									
Corneration Deviations									
Minimum posing time									
Static Compliance									
Weaving deviations									
Measured Data									
Exit									

Pose Accuracy				Measurement Configuration				
Point Graph	Line Graph	Distribution Graph		Point No.	Points	Cmd. Pose	Pose Acc.	
				5	<input checked="" type="radio"/> All Points <input type="radio"/> Points 1 <input type="radio"/> Points 2 <input type="radio"/> Points 3 <input type="radio"/> Points 4 <input type="radio"/> Points 5	<input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	APx APy APz AP	
					Zoom	Report	Print	Direction
					Zoom In Zoom Out			<input type="button" value="Up"/> <input type="button" value="Down"/> <input type="button" value="Left"/> <input type="button" value="Right"/>
NewData	XY Plane	YZ Plane	ZX Plane					

83

83a

83b

FIG. 13

Robot Performance Measurement [ISO 9283]

[Exchangeability]

Date : 2003-04-07

1. Measurement Information

a. Type	:	j. Quality	4.0
b. Model	:	k. DPMO	6209.7
c. Manufacturer	: Samsung	l. Result	PASS
d. Robot Serial Number	:		
e. Main Software Version	:		
f. BSC Software Version	:		
g. Measurement System	:		
h. Measured Date	: 2003/04/06 22:09:51		
i. Operator	: Lee, S. I		

2. Measurement Result

P1[E]	R1	R2	R3	R4	R5	비고
R1	-	0.016	0.013	0.004	0.008	
R2	-	-	0.026	0.018	0.007	
R3	-	-	-	0.010	0.020	
R4	-	-	-	-	0.011	
R5	-	-	-	-	-	

a. Load	: 100 %
b. Override Speed	: 100 %
c. CP Speed	: 500 mm/sec
d. Specified Limit	: E Low : -Q11 E High : Q12
e. Number of Poses	: 5
f. Measurement Cycle	: 10
g. Measurement Frequency	: 500 Hz

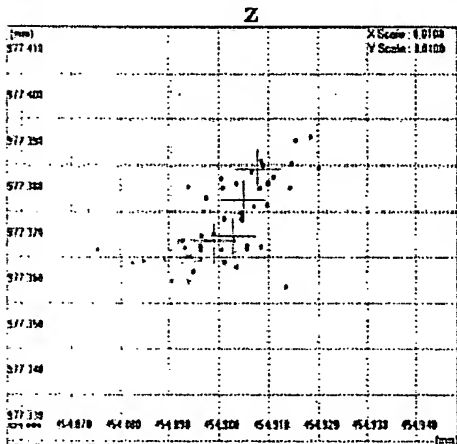
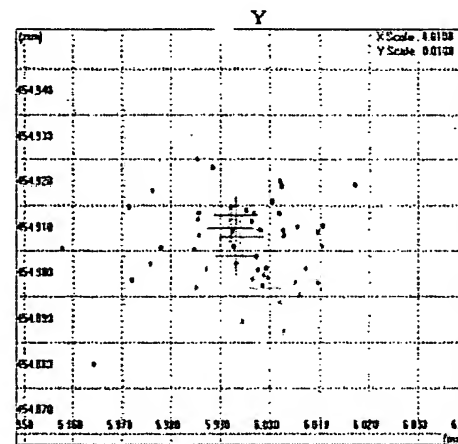
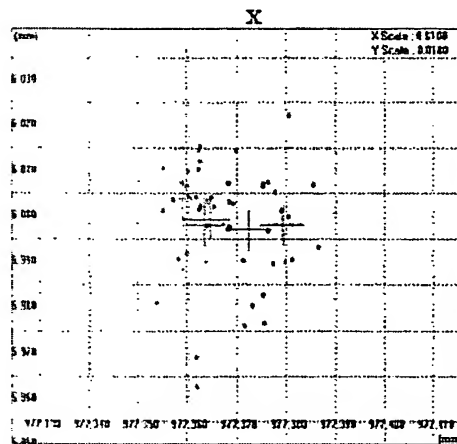
3. Additional Notes

--

FIG. 14

Robot Performance Measurement [ISO 9283]

Exchangeability P1



Additional Notes

FIG. 15

